

## **DETAILED ACTION**

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wuthrich et al.

Re claim 2: Wuthrich teaches a method of predicting stock market behavior using software implemented on a processor, said trading software having a data analysis tool implementing natural language processing and a stock predictor implementing a stock prediction model, said method comprising:

said data analysis tool extracting information from news media relating to a particular stock market to create a template including natural language text describing activities or announcements of said particular stock market;

said data analysis tool relating changes in stock index of said particular stock market to information stored in said template about said particular stock market;  
said data analysis tool determining a statistical significance of said changes in stock index of said particular stock market based on said information; and  
said stock predictor predicting changes in index of said particular stock market based on new information about said particular stock market if information of the type included in the new information has in the past caused a statistically significant change in the stock index in said particular stock market (see at least abstract, “prediction techniques” on pages 2721-2722 and Tables 1, 2 and 3).

Wuthrich does not explicitly teach the predicting changes in price as applied to individual stock or publicly traded company as recited in the claim. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wuthrich's principle operations or prediction model to individual stock or traded company because the Wuthrich reference is in the field of applicant's endeavor and it solves the same problem with which the applicant was concerned, albeit using different parameters (i.e., stock market and its index instead of publicly traded company and its stock price). See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

Re claim 3: Wuthrich teaches clustering the information of said particular stock market with information of another stock market whose index has been shown to be similarly affected by similar information as included in said new information (tables 1 and 2).

Re claim 4: Wuthrich teaches wherein said information extracting step comprises said data analysis tool using natural language processing to parse sources of said information for information about said particular stock market, said data analysis tool further standardizing different references to the particular stock market by different proper names, co-referencing when the particular publicly traded company is referred to by pronouns, adding said new information to said template, and adding additional information about said particular publicly traded company to said template using databases and/or derived values (see entire document).

Re claim 5: Wuthrich teaches comprising the said data analysis tool further steps of clustering templates containing information about different stock markets into similar cluster groups, determining changes in index at different intervals for different markets in a cluster group in response to comparable information, and estimating the statistical probability of a change in the index of said particular stock market in response to certain new information statistically correlated to that in said comparable information (see entire document).

Re claim 6: Wuthrich teaches conducting a stock trade based on said predicted changes in index (page 2724, lines 1-13).

### **Response to Arguments**

Applicant's arguments filed 3/14/2011 have been fully considered but they are not persuasive.

Applicant argues that Wuthrich fails to teach predicting changes in the price of the stock of a company by relating changes in the stock price of the company to information stored in a

template including natural language text describing activities or announcements of the company about the company. Applicant further asserts that changes in price of the stock of the company may be predicted based on new information about the company if information of the type included in the new information has past caused a statistically significant change in the stock price in the company. The method steps recited in the claims will be performed the same way regardless of the item (**stock market Vs individual company**) being predicted or the parameter that is subject to change (**index Vs price**).

Examiner respectfully disagrees. Examiner notes that the Wuthrich reference is not concerned with individual stock per se, rather it is concerned with stock market indices. One of ordinary skill in the art at the time of the invention would recognize the advantage of applying Wuthrich concept to individual company since it solves the same problem of predicting changes in index (in the case of individual company, stock price) of the stock market when new information is received based on past impact of such information on the stock market.

Wuthrich explicitly teaches that old news and old index values of Figure 1 contain training data, the news (old news) and closing values (impact of the news on the index) of the last one hundred stock trading days (creating a template including natural language text describing news regarding the index). Examiner notes that the training data constitute a template regarding the index.

Keywords in the textual language, such as "bond strong," "dollar falter," "property weak," "dow rebound," "technology rebound strongly," etc. (bottom of column 2 of page 2721) are taken from the articles by a domain expert and weighted if determined to be influential factors that may potentially move the index. The keyword data is indeed information "relating to a particular

**stock market**” and is used to “create a template including natural language text describing activities or announcement of said **stock market**”. Examiner notes that this information changes from Dow to Nikkei 225 or other stock indices. The natural language statement do indeed impact individual stock index

Regarding claim 3, Wuthrich shows clustering the information of said particular stock market (Dow) with information of another stock market (Nikkei 225) whose index has been shown to be similarly affected by similar information as included in said new information.

Regarding claim 4, the different stock market indices uses different proper names. Furthermore, the names are considered non functional descriptive material. The differences between the prior art and the claimed limitation are only rooted in content. And content is nonfunctional descriptive material. Patentable weight need not be given to descriptive material absent a new and unobvious functional relationship between the descriptive material and the substrate, of which there is no evidence in the record. See *In re Lowry*, 32 F.3d 1579, 1582-83 (Fed. Cir. 1994); *In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004). See also *Ex parte Mathias*, 84 USPQ2d 1276, 1279 (BPAI 2005) (nonprecedential) (Federal Circuit Appeal No. 2006-1103; 191 Fed. Appx. 959 (Fed. Circ. 2006) affirmed without written opinion Aug. 17, 2006).

Regarding claim 5, Wuthrich teaches clustering templates containing information about different stock markets into similar cluster groups (tables 1 and 2), determining changes in index at different intervals for different markets in a cluster group in response to comparable information

(table 1, "6<sup>th</sup> Dec 97 to 6<sup>th</sup> March 98"), and estimating the statistical probability of a change in the index of said particular stock market in response to certain new information statistically correlated to that in said comparable information (table 2, see entire document).

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLABODE AKINTOLA whose telephone number is (571)272-3629. The examiner can normally be reached on M-F 8:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Kalinowski can be reached on 571-272-6771. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Olabode Akintola/  
Primary Examiner, Art Unit 3691